



Complete Summary

GUIDELINE TITLE

Hypertension in older people. A national clinical guideline.

BIBLIOGRAPHIC SOURCE(S)

Hypertension in older people. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2001. 49 p. (SIGN publication; no. 49). [158 references]

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SCOPE

DISEASE/CONDITION(S)

Hypertension

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Risk Assessment
Treatment

CLINICAL SPECIALTY

Cardiology
Family Practice
Geriatrics
Internal Medicine

INTENDED USERS

Advanced Practice Nurses
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

TARGET POPULATION

Older patients (aged ≥ 60 years) with hypertension

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis

1. Measurement of blood pressure (office/clinic, home and ambulatory monitoring)

Assessment of the hypertensive patient

1. Recording the blood pressure
2. Assessment of severity of hypertension
3. Assessment of target organ damage
4. Assessment of cardiovascular risk
5. Identification of underlying causes
6. Selection of specific drug therapy

Investigation of the hypertensive patient

1. Urinalysis
2. Biochemical screen (full blood count, serum creatinine, potassium gamma glutamyl transpeptidase, thyroid stimulating hormone, blood glucose, full lipid profile, serum urate, serum calcium profile)
3. Cardiac assessment (standard 12-lead electrocardiogram, echocardiography)
4. Additional investigations of brain, heart, kidneys, as appropriate

Thresholds and targets for treatment

1. Establishing thresholds and targets for systolic and diastolic hypertension
2. Multifactorial risk assessment and risk stratification (World Health Organization/International Hypertension Society guidelines or Joint British guidelines)
3. Specialist referral of patients with diabetes or renal disease

Non-pharmacological treatment/lifestyle modification

1. Weight loss
2. Reduction in alcohol intake

3. Dietary change (reduction in sodium intake), increase fruit and vegetable consumption)
4. Exercise
5. Smoking cessation
6. Addressing other cardiovascular risk factors

Antihypertensive drug treatment

1. Thiazides
2. Beta-blockers
3. Calcium antagonists
4. Angiotensin converting enzyme (ACE) inhibitors
5. Angiotensin II antagonists
6. Alpha-blockers
7. Other agents
8. Combination therapy

Additional drug therapy

1. Aspirin
2. Lipid lowering therapy
3. Hormone replacement therapy

Follow-up

1. Blood pressure monitoring, weight, general health, side effects, advice on non-pharmacological measures, urine test for proteinuria annually
2. Ensuring patient compliance

Treatment of special groups of older people (type 2 diabetes, type 1 diabetes, cardiovascular disease, renal disease, strokes and transient ischaemic attacks, dementia, very old)

MAJOR OUTCOMES CONSIDERED

- Blood pressure control
- Risk of cardiovascular complications
- Morbidity and mortality rates
- Target organ damage

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

An Internet search was carried out to identify all literature relating to hypertension in older people including randomised controlled trials and meta-

analyses. Existing guidelines on hypertension were also sought. This search covered a range of general and specialised search engines (such as Medline, Healthstar and Embase), as well as a number of specific medical sites (including the Cochrane library). Further searches were made with particular regard to the frail elderly and dementia.

The Cochrane Review on Antihypertensive Drug Therapy in the Elderly was used as the principal source of evidence. The search strategy from this review was run on Healthstar and Medline, and a similar strategy run on Embase, to bring coverage of the literature up to September 1998. Additional searches designed to identify other reviews and meta analyses were carried out on these three databases as well as the DHSS database and the Australian, British, and US official publications databases.

The Cochrane Library, Embase, Healthstar and Medline were also searched for material relating to patient compliance or conformance with antihypertensive drug therapy, or the effectiveness of patient education in improving compliance.

The evidence base was updated during the course of development of the guideline. Full details of the search strategies used and the coverage of the Internet search are available from the SIGN Executive.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Statements of Evidence:

I a: Evidence obtained from meta-analysis of randomized controlled trials.

I b: Evidence obtained from at least one randomized controlled trial.

II a: Evidence obtained from at least one well-designed controlled study without randomization.

II b: Evidence obtained from at least one other type of well-designed quasi-experimental study.

III: Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.

IV: Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

The Scottish Intercollegiate Guidelines Network (SIGN) carries out comprehensive systematic reviews of the literature using customized search strategies applied to a number of electronic databases and the Internet. This is often an iterative process whereby the guideline development group will carry out a search for existing guidelines and systematic reviews in the first instance and, after the results of this search have been evaluated, the questions driving the search may be redefined and focused before proceeding to identify lower levels of evidence.

Once papers have been selected as potential sources of evidence, the methodology used in each study is assessed to ensure its validity. SIGN has developed checklists to aid guideline developers to critically evaluate the methodology of different types of study design. The result of this assessment will affect the level of evidence allocated to the paper, which in turn will influence the grade of recommendation it supports.

Additional details can be found in the companion document titled "SIGN 50: A Guideline Developers' Handbook." (Edinburgh [UK]: Scottish Intercollegiate Guidelines Network. [SIGN publication; no. 50]). Available from the [SIGN Web site](#).

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The process for synthesizing the evidence base to form graded guideline recommendations is illustrated in the companion document titled "SIGN 50: A Guideline Developer's Handbook." (Edinburgh [UK]: Scottish Intercollegiate Guidelines Network. [SIGN publication; no. 50], available from the SIGN website.

Evidence tables should be compiled, summarizing all the validated studies identified from the systematic literature review relating to each key question. These evidence tables form an important part of the guideline development record and ensure that the basis of the guideline development group's recommendations is transparent.

In order to address how the guideline developer was able to arrive at their recommendations given the evidence they had to base them on, SIGN has introduced the concept of considered judgement.

Under the heading of considered judgement, guideline development groups are expected to summarise their view of the total body of evidence covered by each evidence table. This summary view is expected to cover the following aspects:

- Quantity, quality, and consistency of evidence
- Generalisability of study findings
- Applicability to the target population of the guideline
- Clinical impact (i.e., the extent of the impact on the target patient population, and the resources need to treat them.)

Guideline development groups are provided with a pro forma in which to record the main points from their considered judgement. Once they have considered these issues, the group are asked to summarise their view of the evidence and assign a level of evidence to it, before going on to derive a graded recommendation.

The assignment of a level of evidence should involve all those on a particular guideline development group or subgroup involved with reviewing the evidence in relation to each specific question. The allocation of the associated grade of recommendation should involve participation of all members of the guideline development group. Where the guideline development group is unable to agree a unanimous recommendation, the difference of opinion should be formally recorded and the reason for dissent noted.

The recommendation grading system is intended to place greater weight on the quality of the evidence supporting each recommendation, and to emphasise that the body of evidence should be considered as a whole, and not rely on a single study to support each recommendation. It is also intended to allow more weight to be given to recommendations supported by good quality observational studies where randomised controlled trials (RCTs) are not available for practical or ethical reasons. Through the considered judgement process guideline developers are also able to downgrade a recommendation where they think the evidence is not generalisable, not directly applicable to the target population, or for other reasons is perceived as being weaker than a simple evaluation of the methodology would suggest.

On occasion, there is an important practical point that the guideline developer may wish to emphasise but for which there is not, nor is their likely to be, any research evidence. This will typically be where some aspect of treatment is regarded as such sound clinical practice that nobody is likely to question it. These are marked in the guideline as "good practice points." It must be emphasized that these are not an alternative to evidence-based recommendations, and should only be used where there is no alternative means of highlighting the issue.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grades of Recommendations

Grade A: Requires at least one randomized controlled trial (RCT) as part of a body of literature of overall good quality and consistency addressing the specific recommendation (Evidence levels 1a, 1b).

Grade B: Requires the availability of well conducted clinical studies but no randomised clinical trials on the topic of recommendation (Evidence levels IIa, IIb, III).

Grade C: Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates an absence of directly applicable clinical studies of good quality (Evidence level IV).

Good Practice Points: Recommended best practice based on the clinical experience of the guideline development group.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

1. National open meeting discusses the draft recommendations of each guideline.
2. Independent expert referees review the guideline.
3. The Scottish Intercollegiate Guidelines Network (SIGN) Editorial Board reviews the guideline and summary of peer reviewers' comments.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the Scottish Intercollegiate Guidelines Network (SIGN) and National Guideline Clearinghouse (NGC): In addition to these evidence-based recommendations, the guideline development group also identifies points of best clinical practice in the original guideline document.

The strength of recommendation grading (A-C) and level of evidence (Ia-IV) are defined at the end of the 'Major Recommendations' field.

Diagnosis and Assessment

C: A full assessment of cardiovascular risk should be carried out for all hypertensive patients.

C: Blood pressure measurement is critical to the management of hypertension. Validated equipment should be used and the recommendations of the British Hypertension Society on blood pressure measurement should be followed.

C: The normal range for home blood pressure measurements and ambulatory blood pressure monitoring is lower than "normal" surgery or clinic values.

C: Accelerated phase (malignant) hypertension requires urgent hospital admission for investigation and treatment.

Thresholds and Targets for Treating Hypertension in Older People

C: Both systolic and diastolic hypertension require treatment.

C: Thresholds for antihypertensive therapy and targets for treatment should be set.

C: Thresholds for antihypertensive therapy should take into account both the level of blood pressure and other risk factors.

C: The decision to start treatment should be based on a structured assessment of cardiovascular risk.

A: A target blood pressure of <140/90 mm Hg is recommended for older hypertensive patients.

A: Even a small reduction in blood pressure is worthwhile if absolute targets prove difficult to achieve.

C: Hypertensive patients with diabetes or with renal disease should be considered for specialist referral. Some patients may require further investigation and lower target blood pressures may be desirable.

Lifestyle Modification

C: Lifestyle measures aimed at controlling hypertension should be recommended in all cases.

A: Overweight and obese hypertensive patients (BMI ≥ 25.0) should be encouraged to lose weight.

B: Alcohol intake should be reduced when it exceeds 21 units per week for men and 14 units per week for women.

A: Sodium intake should be reduced towards a target of <5 g/day.

A: Fruit and vegetable consumption should be increased to five portions/day, total and saturated fat consumption reduced.

A: Increase physical activity by taking regular exercise.

B: All patients should be actively discouraged from smoking.

Drug Treatment

A: Thiazide diuretics are recommended as first line therapy for drug treatment of hypertension in older patients.

A: Low doses of thiazide should be used as there is clear evidence that this minimises potential adverse biochemical and metabolic disturbance.

A: Beta-blockers can be used as alternative or supplementary therapy to thiazide diuretics in older patients.

A: Long-acting dihydropyridine calcium antagonists can be used as alternative therapy to thiazide diuretics or supplementary to other therapy, particularly in patients with isolated systolic hypertension.

B: Short-acting dihydropyridine calcium antagonists should be avoided.

A: Angiotensin converting enzyme inhibitors (ACE) are specifically indicated as first line therapy for hypertension in patients with type 1 diabetes, proteinuria, or left ventricular dysfunction.

A: In most other hypertensive patients, angiotensin converting enzyme inhibitors are recommended as alternative or supplementary therapy in the absence of renal artery stenosis.

C: Alpha-blockers may be used as supplementary therapy.

A: Aspirin 75 mg daily is recommended for older hypertensive patients who have:

- no contraindication to aspirin
- blood pressure controlled to <150/90 mm Hg

and any of the following:

- cardiovascular complications
- target organ damage
- cardiovascular event risk $\geq 2\%$ per year (20% over 10 years)
- coronary event risk $\geq 1.5\%$ per year (15% over 10 years)

C: Single daily dosing of drugs (or, when this is not available, twice daily) should be encouraged.

Treatment of Special Groups of Older People

Type 2 Diabetes

A: The threshold blood pressure for starting antihypertensive treatment in type 2 diabetes with cardiovascular complications, hypertensive target organ damage, or diabetes-specific microvascular disease (including microalbuminuria or proteinuria) is $\geq 140/90$ mm Hg.

C: In the absence of these complications, formal estimation of cardiovascular risk should guide the treatment decision.

B: Tight control of blood pressure in type 2 diabetes is recommended.

Type 1 Diabetes

A: The threshold for antihypertensive treatment in type 1 diabetes is $\geq 140/90$ mm Hg.

A: The target blood pressure in type 1 diabetes is $< 130/80$ mm Hg.

B: In patients with proteinuria > 1 g/24 hours, the target is $< 125/75$ mm Hg.

A: Angiotensin converting enzyme inhibitors are recommended as first line therapy for control of hypertension in older patients with type 1 diabetes mellitus with nephropathy.

Cardiovascular Disease

A: Blood pressure reduction should be part of a cardiovascular risk reduction strategy.

A: When blood pressure reduction is required in patients with cardiovascular disease, angiotensin converting enzyme inhibitors and/or beta-blockers should be considered.

Renal Disease

B: Blood pressure in older patients should be controlled to reduce the progression of renal disease.

C: Accelerated phase (malignant) hypertension requires immediate hospital admission for treatment.

C: The threshold for antihypertensive treatment is 140/90 mm Hg for patients with proteinuria or renal impairment.

A: The blood pressure target for patients with renal impairment or persistent proteinuria is $< 130/85$ mm Hg. Patients with chronic renal disease of any aetiology and proteinuria > 1 g/24 hours should have blood pressure controlled to 125/75 mm Hg.

A: In the absence of renal artery stenosis, angiotensin converting enzyme inhibitors should be the drugs of choice in patients with renal failure.

Strokes and Transient Ischaemic Attacks (TIAs)

A: Blood pressure reduction is recommended for the primary prevention of stroke and transient ischaemic attacks.

A: Antihypertensive therapy is not generally recommended in the early days after an acute stroke.

C: Antihypertensive therapy should be considered for secondary prevention in patients who are recovering from stroke.

Dementia

C: Blood pressure in older people should be controlled to reduce the incidence of dementia.

Very Old People

C: Chronological age should not be a barrier to the judicious use of antihypertensive therapy.

Definitions:

Grades of Recommendations:

- A. Requires at least one randomised controlled trial as part of a body of literature of overall good quality and consistency addressing the specific recommendation. (Evidence levels Ia, Ib)
- B. Requires the availability of well conducted clinical studies but no randomised clinical trials on the topic of recommendation. (Evidence levels IIa, IIb, III)
- C. Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates an absence of directly applicable clinical studies of good quality. (Evidence level IV)

Statements of Evidence:

Ia: Evidence obtained from meta-analysis of randomized controlled trials.

Ib: Evidence obtained from at least one randomized controlled trial.

IIa: Evidence obtained from at least one well-designed controlled study without randomization.

IIb: Evidence obtained from at least one other type of well-designed quasi-experimental study.

III: Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.

IV: Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities.

CLINICAL ALGORITHM(S)

Algorithms are provided for the initiation of treatment for hypertension in older people and for the stabilization, maintenance and follow up after initiation of antihypertensive drug therapy.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The specific type of supporting evidence is explicitly identified in each section of the guideline.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Benefits of treating hypertension in older people

The prevalence of hypertension increases with age, as does the incidence of the diseases caused by hypertension.

Older patients with hypertensive blood pressures have a higher risk of cardiovascular complications when compared to younger hypertensives and treatment which reduces diastolic and isolated systolic hypertension reduces this risk. Recent evidence also shows a 50% reduction in heart failure in the elderly group. Treatment of hypertension reduces the incidence of fatal and non-fatal stroke, cardiovascular disease (major coronary events and chronic heart failure) and, in some studies, reduces cardiovascular and total mortality.

The relative risk reduction from treatment of hypertension remains the same at all ages, but the absolute risk of complications of hypertension is higher among older patients than younger at every level of blood pressure, so that the number needed to treat (NNT) to obtain the same benefit is lower in older adults. The number needed to treat for five years to prevent one death for patients aged under 60 years is 167 whereas for patients aged over 60 years the number needed to treat is 72.

POTENTIAL HARMS

Thiazides

- Thiazides can cause hypokalaemia and this has the risk of increasing arrhythmias.

Calcium antagonists

- Retrospective cohort studies have suggested that some calcium antagonists may be associated with an increased risk of mortality, myocardial infarction, and other adverse outcomes such as cancer and gastrointestinal bleeding. However, a review of all the available evidence does not establish the

existence of either beneficial or harmful effects and these adverse effects have not been confirmed in prospective randomised studies.

Angiotensin converting enzyme inhibitors

- Cough is a limiting side effect of therapy.
- Angiotensin converting enzyme inhibitors can raise serum creatinine and cause deterioration in renal function.

Angiotensin II receptor blockers

- Angiotensin II receptor blockers can raise serum creatinine and cause deterioration in renal function

Alpha-blockers

- The doxazosin arm of the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) was discontinued due to a higher proportion patients developing congestive cardiac failure compared with the diuretic group. Alpha-blockers should not be used as first-line therapy and should be used with caution.

Aspirin

- Aspirin may be associated with clinically significant bleeding episodes. In primary prevention, hypertension must be controlled satisfactorily before starting aspirin treatment, as there is a risk of cerebral haemorrhage. When aspirin is used for secondary prevention, e.g. following acute myocardial infarction or unstable angina, the benefit of aspirin treatment is probably seen at all levels of blood pressure. Aspirin may be unsuitable for certain patients and alternative antiplatelet agents may be required (see the related SIGN guideline on antithrombotic therapy [Edinburgh (UK): Scottish Intercollegiate Guidelines Network, 1999 Mar. 70 p. (SIGN publication; no. 36)]).

CONTRAINDICATIONS

CONTRAINDICATIONS

Specific contraindication for the major classes of antihypertensive drugs are as follows:

- Beta-blockers: bronchospastic disease, depression, dyslipidaemia, second or third degree heart block, heart failure, peripheral vascular disease
- Diuretics: type 1 and type 2 diabetes (high-dose), dyslipidaemia, gout and hyperuricaemia
- Calcium channel blockers: second or third degree heart block, heart failure (note: amlodipine, felodipine are not contraindicated)
- Labetolol: liver disease
- Potassium-sparing agents: renal insufficiency
- Angiotensin enzyme inhibitors and angiotensin II receptor blockers: renovascular disease

QUALIFYING STATEMENTS

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This guideline is not intended to be construed or to serve as a standard of medical care. Standards of medical care are determined on the basis of all clinical data available for an individual case and are subject to changes as scientific knowledge and technology advance and patterns of care evolve.

These parameters of practice should be considered guidelines only. Adherence to them will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgment regarding a particular clinical procedure or treatment plan must be made by the doctor in light of the clinical data presented by the patient and the diagnostic and treatment options available.

Significant departures from the national guideline as expressed in the local guideline should be fully documented and the reasons for the differences explained. Significant departures from the local guideline should be fully documented in the patient's case notes at the time the relevant decision is taken.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Hypertension in older people. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2001. 49 p. (SIGN publication; no. 49). [158 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2001 Jan

GUIDELINE DEVELOPER(S)

Scottish Intercollegiate Guidelines Network - National Government Agency [Non-U.S.]

SOURCE(S) OF FUNDING

Scottish Executive Health Department

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Guideline Development Group: Dr Ronald MacWalter (Chairman from 1998); Professor Graham Watt (Chairman until 1998); Dr Philip Cotton (Methodologist); Dr Hugh Edwards (Methodologist); Dr Suzanne Burns (Secretary); Dr Keith Beard; Dr Cyril Cohen; Dr Barclay Goudie; Dr Iain McIntosh; Mrs Kathy McShane; Ms Angela Munday; Professor Cairns Smith; Dr Paul Syme; Professor David Webb; Dr John Webster.

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

All members of the Scottish Intercollegiate Guidelines Network (SIGN) guideline development groups are required to complete a declaration of interests, both personal and non-personal. A personal interest involves payment to the individual concerned, e.g., consultancies or other fee-paid work commissioned by or shareholdings in the pharmaceutical industry; a non-personal interest involves payment which benefits any group, unit or department for which the individual is responsible, e.g., endowed fellowships or other pharmaceutical industry support. SIGN guideline group members should be able to act as independently of external commercial influences as possible, therefore, individuals who declare considerable personal interests may be asked to withdraw from the group. Details of the declarations of interest of any guideline development group member(s) are available from the SIGN executive.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline was issued in 2001 and will be reviewed in 2003 or sooner if new evidence becomes available.

Any amendments to the guideline in the interim period will be noted on the [Scottish Intercollegiate Guidelines Network \(SIGN\) Web site](#).

GUIDELINE AVAILABILITY

Electronic copies: Available from the Scottish Intercollegiate Guidelines Network (SIGN) Web site:

- [HTML format](#)
- [Portable Document Format \(PDF\)](#)

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Quick reference guide: Hypertension in older people. Scottish Intercollegiate Guidelines Network, 2001 Jan. 2 p. Available in Portable Document Format (PDF) from the [Scottish Intercollegiate Guidelines Network \(SIGN\) Web site](#).
- SIGN 50: A guideline developer's handbook. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2001 Feb. (SIGN publication; no. 50). Electronic copies available from the [SIGN Web site](#).
- Appraising the quality of clinical guidelines. The SIGN guide to the AGREE (Appraisal of Guidelines Research and Evaluation) guideline appraisal instrument. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2001. Available from the [SIGN Web site](#).
- A background paper on the legal implications of guidelines. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network.

NGC STATUS

This summary was completed by ECRI on October 17, 2001. The information was verified by the guideline developer as of December 17, 2001.

COPYRIGHT STATEMENT

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